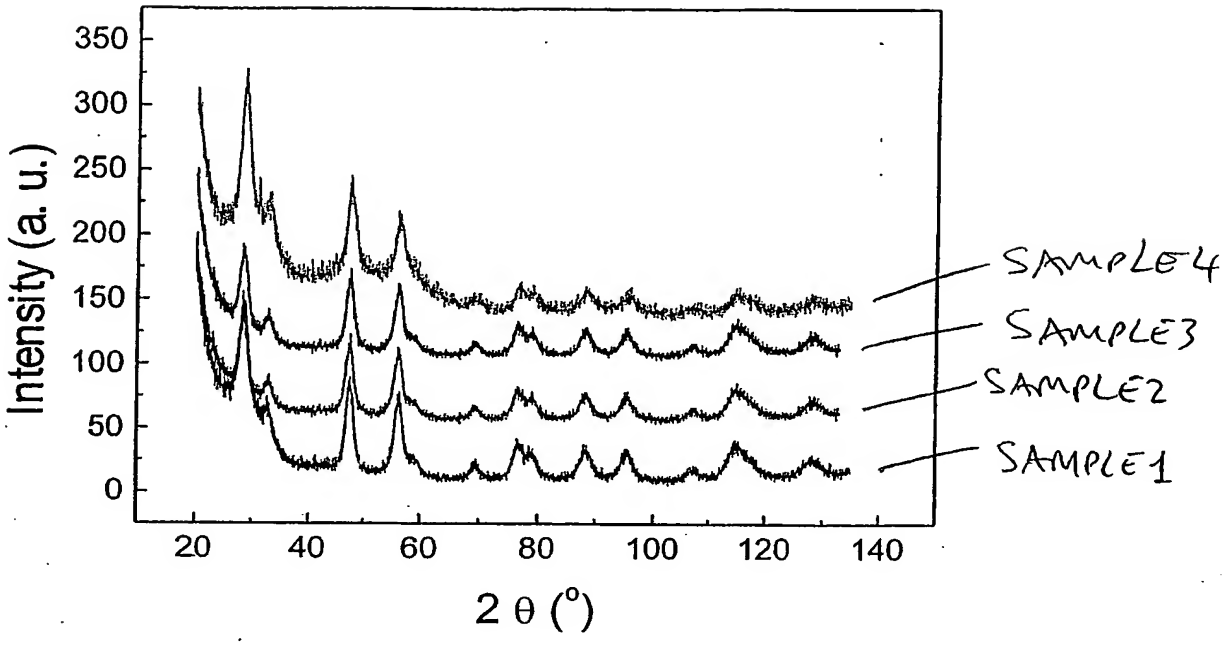
Intensity (a. u.)
350
300
250
200
150
100
50
0
20
40
60
80
100
120
140
2 θ (°)
SAMPLE4
SAMPLE3
SAMPLE2
SAMPLE1

FIG. 1

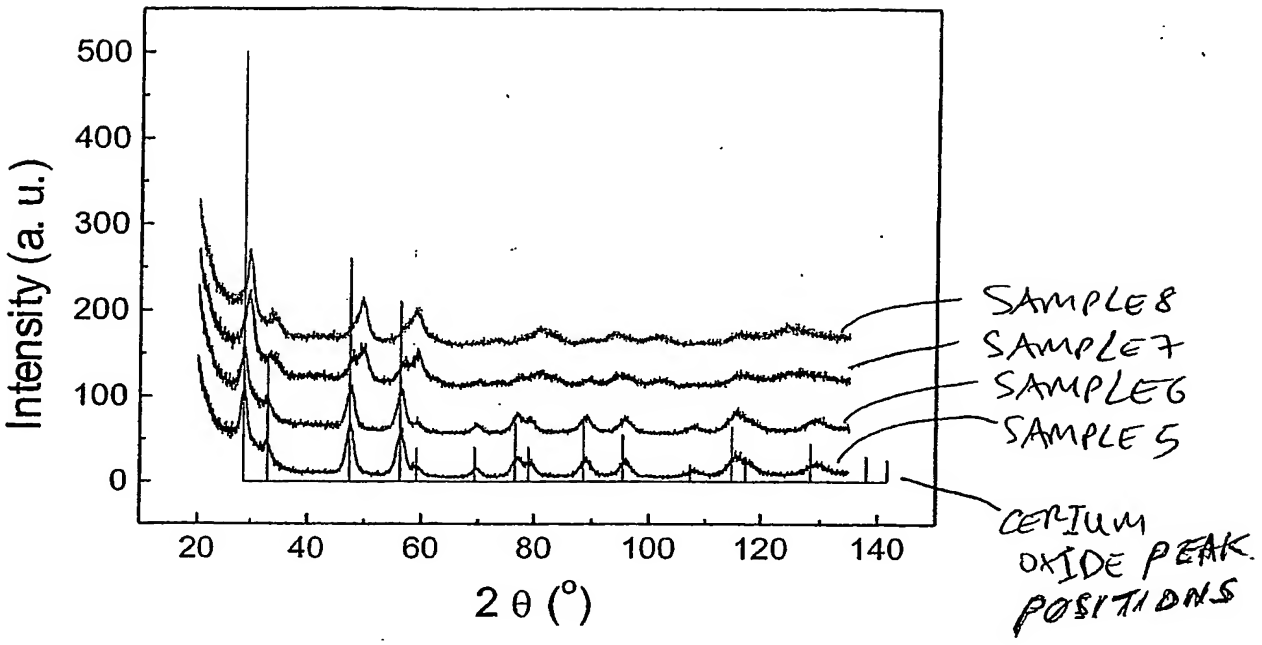
Intensity (a. u.)
500
400
300
200
100
0
20
40
60
80
100
120
140
2 θ (°)
SAMPLE 8
SAMPLE 7
SAMPLE 6
SAMPLE 5
CERIUM OXIDE PEAK POSITIONS

FIG. 2A

10/506981

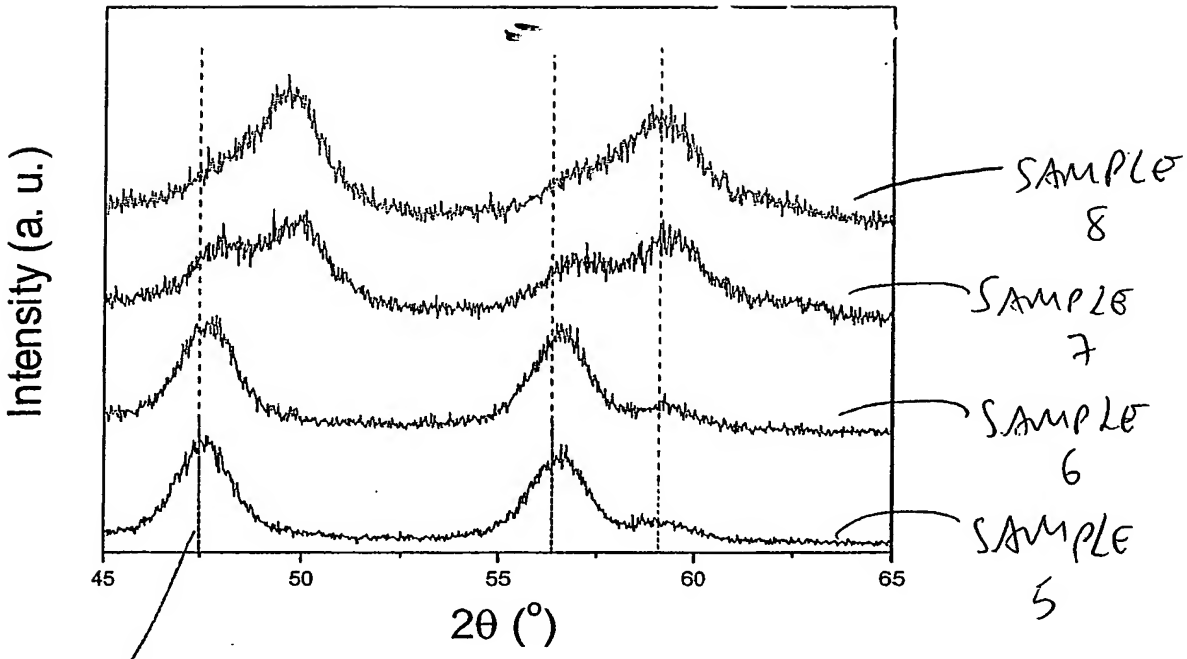

FIG. 2B

10/506987

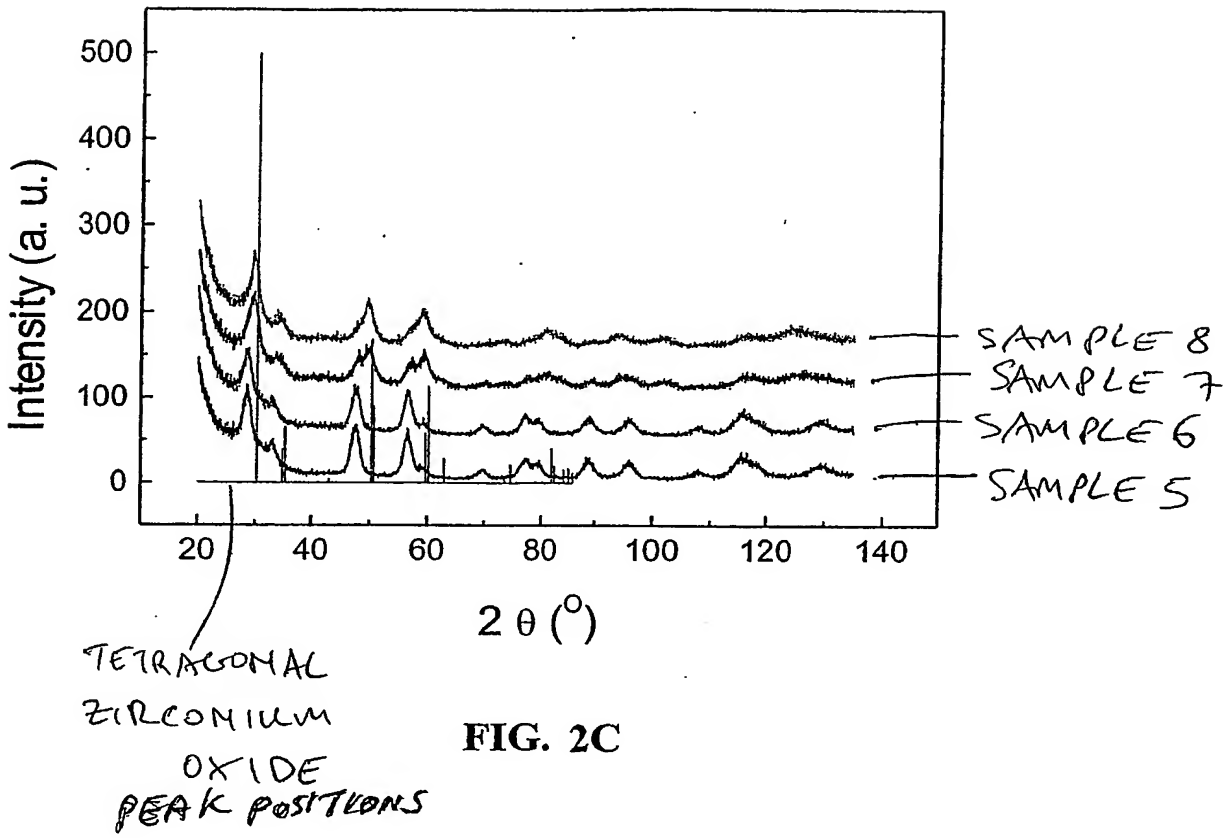

FIG. 2C

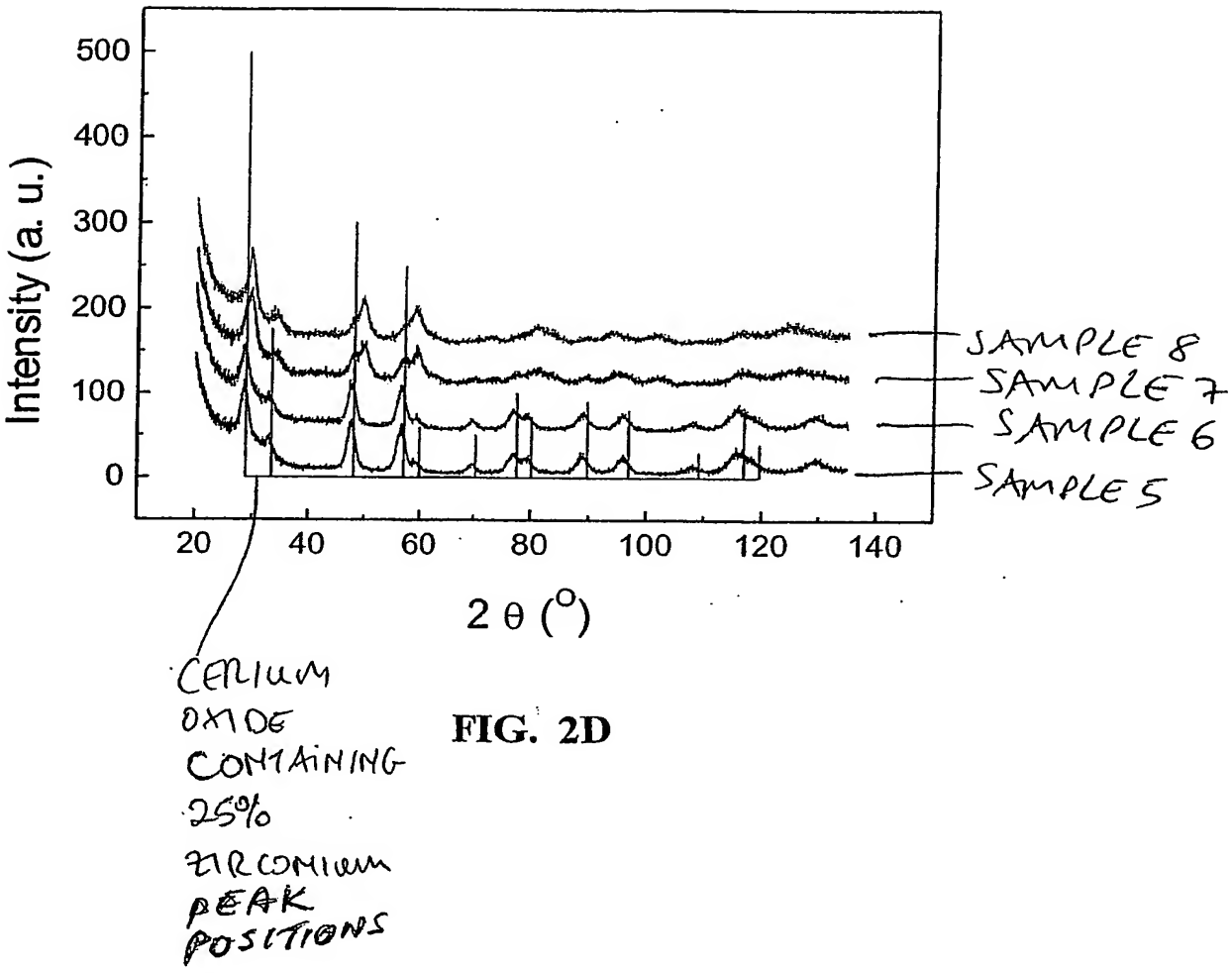
Intensity (a. u.)
500
400
300
200
100
0
20
40
60
80
100
120
140
2 θ (°)
SAMPLE 8
SAMPLE 7
SAMPLE 6
SAMPLE 5
CERIUM OXIDE CONTAINING 25% ZIRCONIUM PEAK POSITIONS

FIG. 2D

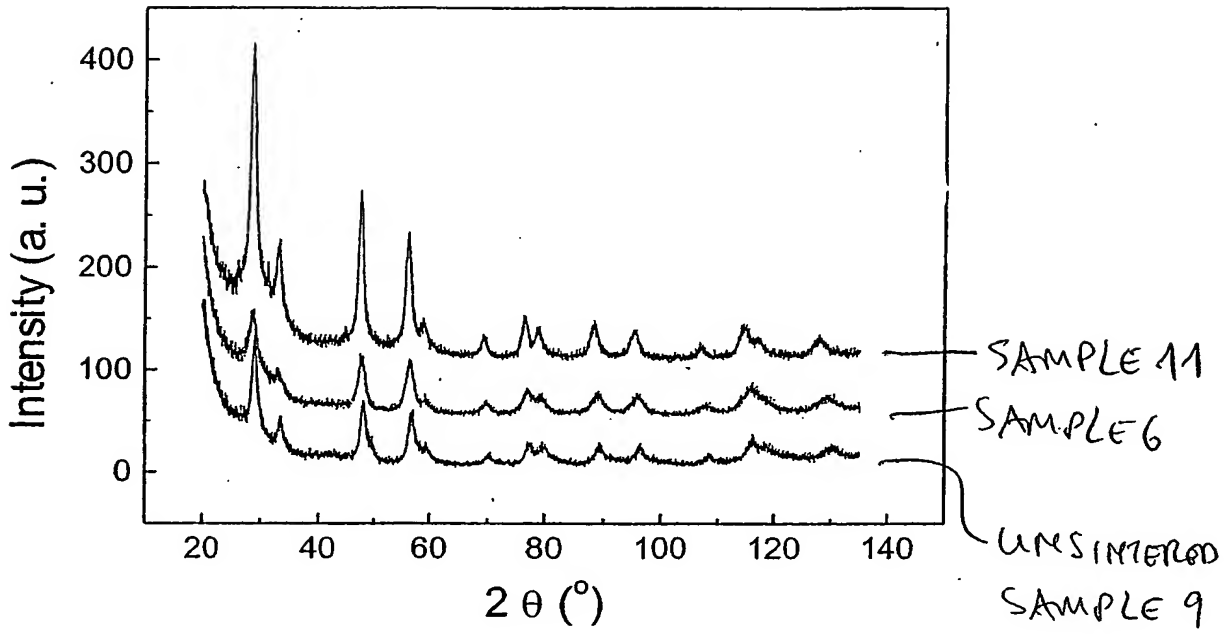
Intensity (a. u.)
400
300
200
100
0
20
40
60
80
100
120
140
2 θ (°)
SAMPLE 11
SAMPLE 6
UNSINTERED
SAMPLE 9

FIG. 3A

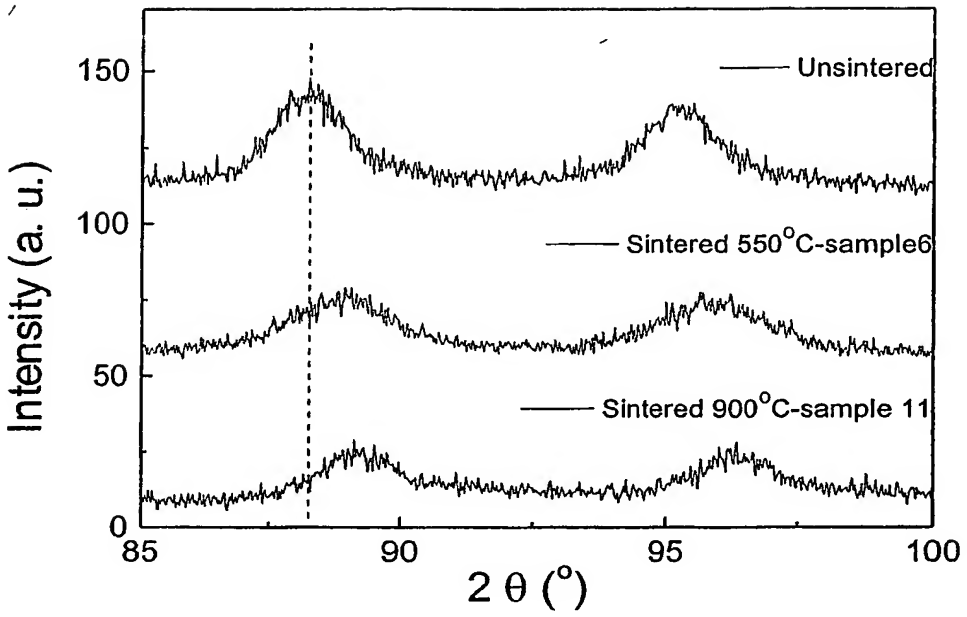
Unsintered
Sintered 550°C-sample6
Sintered 900°C-sample 11
Intensity (a. u.)
150
100
50
0
85
90
95
100
2 θ (°)

FIG. 3B

10/506981

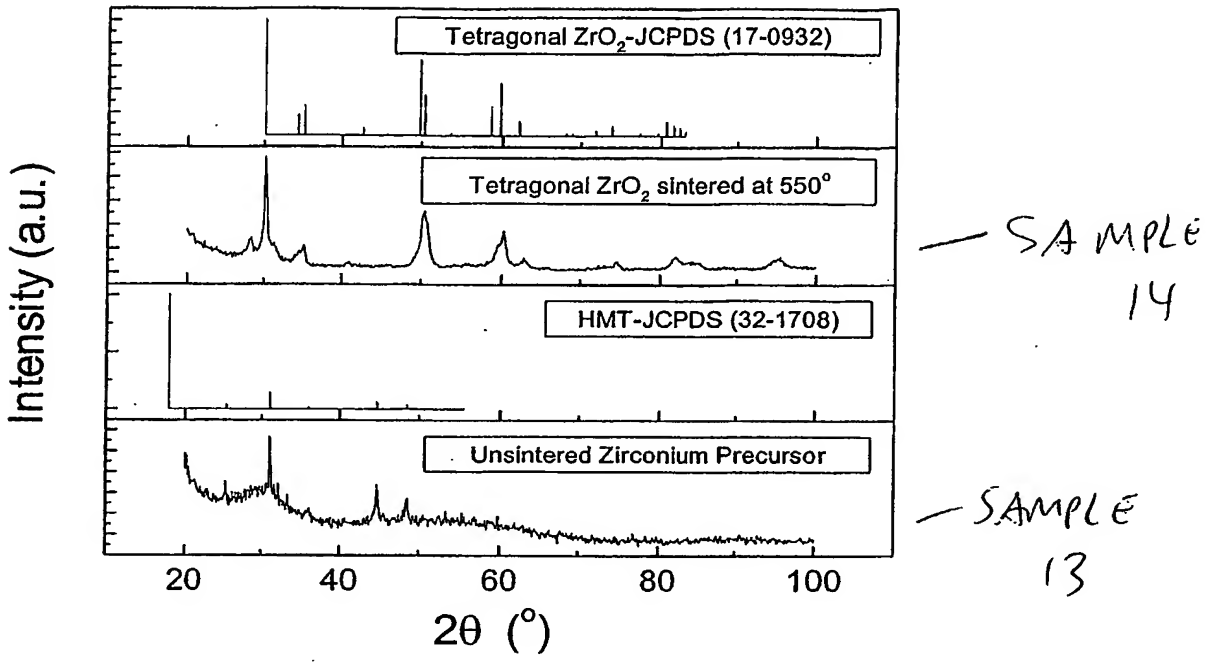

FIG. 4A

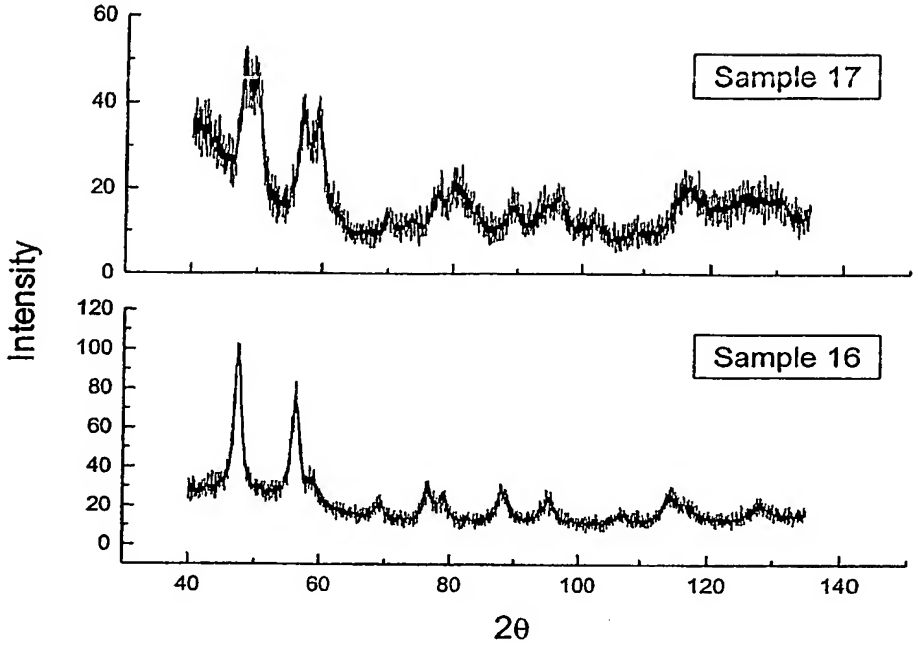
Sample 17
Sample 16
Intensity
2θ
60
40
20
0
120
100
80
60
40
20
0
40
60
80
100
120
140

FIG. 4B

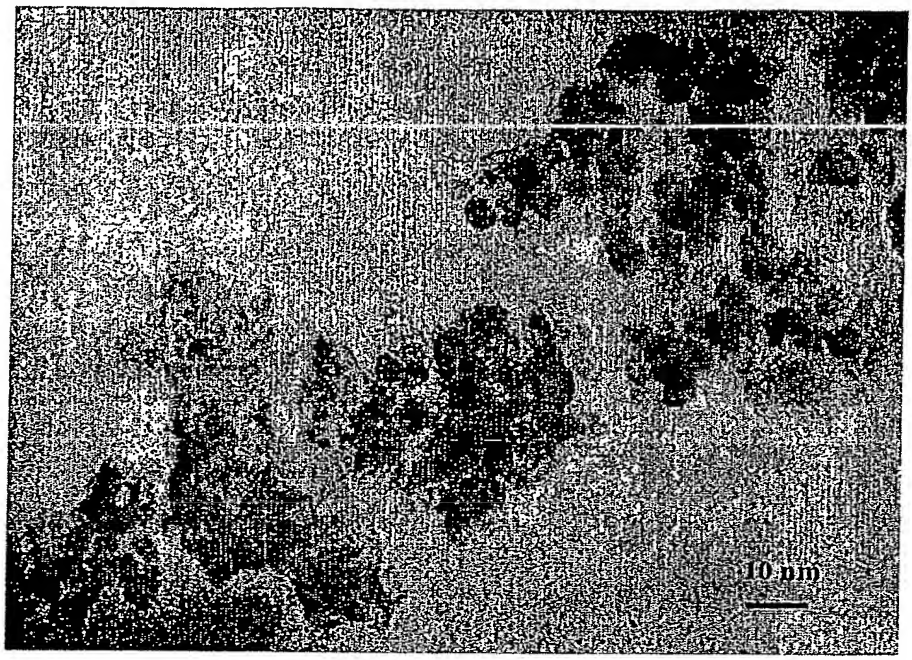

Fig. 5A

BEST AVAILABLE COPY

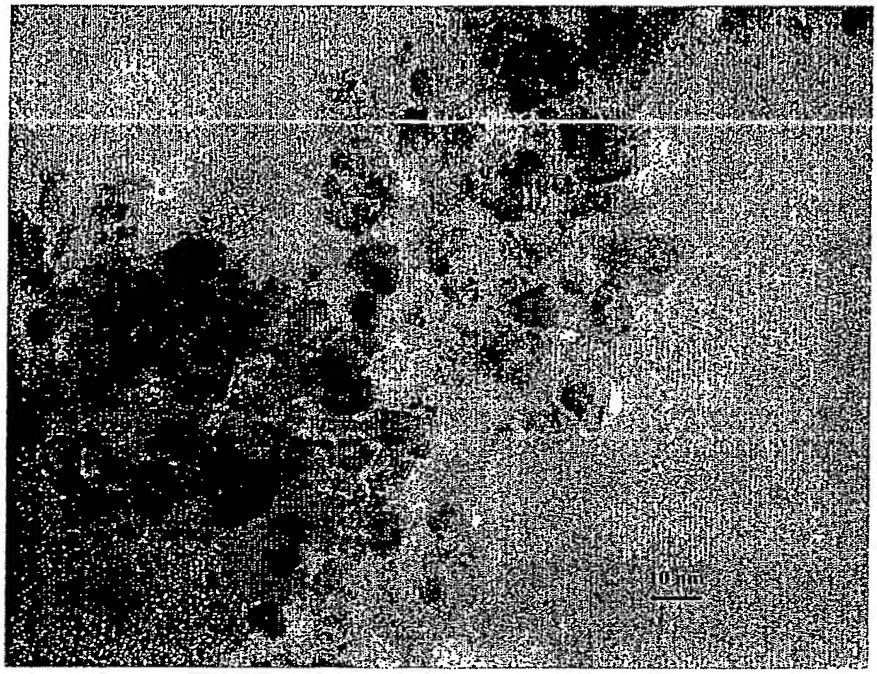

Fig. 5B

BEST AVAILABLE COPY

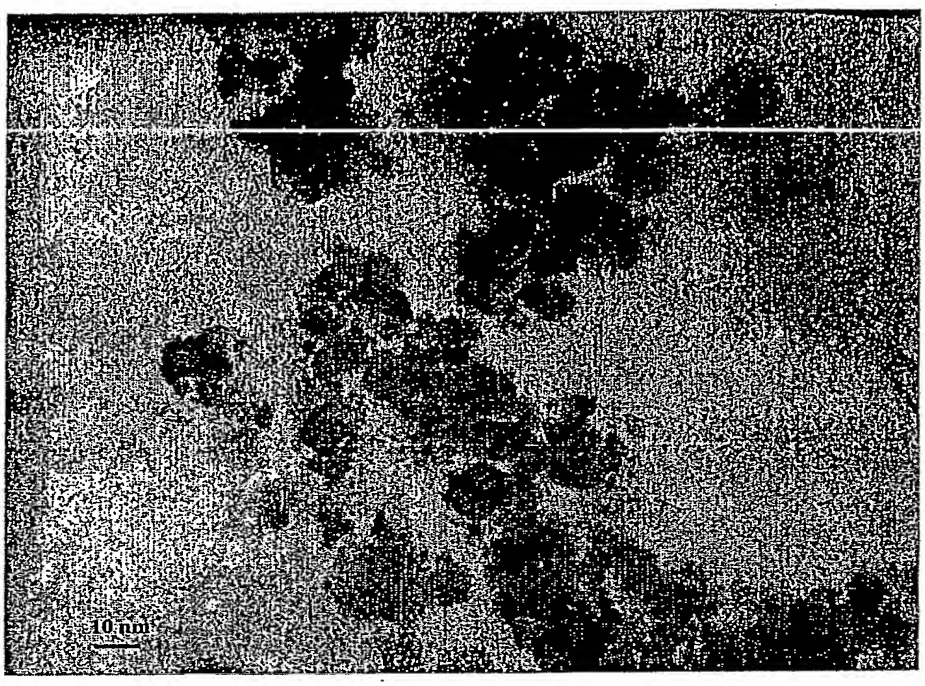

Fig. 5C

BEST AVAILABLE COPY

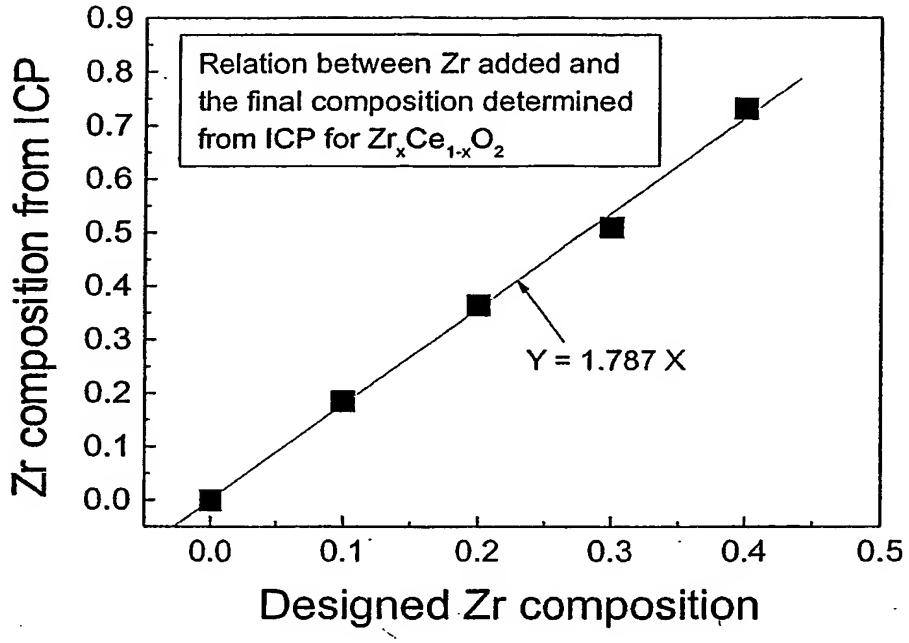
Relation between Zr added and the final composition determined from ICP for $Zr_xCe_{1-x}O_2$
Y = 1.787 X
Zr composition from ICP
Designed Zr composition
0.0
0.1
0.2
0.3
0.4
0.5
0.6
0.7
0.8
0.9

FIG. 6